



PATIENT PRESENTING CLINICAL SIGNS

Shredder Matts Grade II/VI heart murmur, rads show suspected MV disease. R/O contraindications stent sx. Current meds: Torb, Hydrocodone

SPECIES ULTRASONOGRAPHIC EXAMINATION OF THE HEART

Canine

BREED

Pug

SEX

Neutered Male

AGE

12 Years

WEIGHT

21.5 Pounds

CANINE CARDIAC PARAMETERS	MR VMAX (m/s)	TR VMAX (m/s)	LA/AO (Boon method)	LA/AO (Heart Base; Swe)	FS (%)	EF (%)	EPSS (cm)
NORMAL PARAMETER	4.5-5.5	<2.7	1.3	<1.6	28-40	40-100	<0.6
PATIENT	5.6		1.13	1.12	36	68	NM
CANINE CARDIAC PARAMETERS	HR (BPM)	AV VMAX (m/s)	PV MAX (m/s)	BODY WEIGHT (kg)	LA 2D short axis Base view (cm)	LVIDd Avg; 2D and m-mode short axis (cm)	LVIDs Avg; 2D and m-mode short axis (cm)
NORMAL PARAMETER	50-100	0.7-1.7	0.7-1.6	BELOW	BELOW	BELOW	BELOW
PATIENT	90	1.03	0.85		2.53	2.33	

Cardiac Presentation

The echocardiogram in this patient demonstrated normal **left atrial** size based on 3 separate methods of LA evaluation. The **mitral** valve presented mild centralized insufficiency jet. The **left ventricle** presented thicknesses with linear contour and was not dilated nor restricted. The **myocardium** presented normal echogenicity without subjective evidence of significant fibrotic or ischemic disease. **Contractility** of the ventricular walls was adequate and in normal range for this patient evidenced by the fractional shortening measurement and subjective evaluation of the different regions of the myocardium. The **left ventricular outflow** tract demonstrated normal laminar flow and subjective structural integrity. The **right atrium** was enlarged with a 1.5:1.0 ratio with the left atrium in 4-chamber long axis. The **right ventricle** and left ventricular diameters were equal, indicative of right ventricular dilation. **Tricuspid** insufficiency noted from 3.8-4.4 m/sec, consistent with moderate pulmonary hypertension. Complete filling of the right atrium noted on color flow assessment of the tricuspid valve. **Pulmonary outflow** tract assessment revealed normal valve structure, laminar flow, and diameter (approx.1:1 pa/ao ratio). No visible **pericardial** or free pleura fluid was noted. The cranial **mediastinum and pericardial and extra-cardiac regions** were free of masses in the visible window. Occasional arrhythmia noted in this patient. Hepatic veins were not dilated.

ULTRASONOGRAPHIC FINDINGS

- Mitral and tricuspid insufficiency
- Enlarged right atrium and right ventricular dilation

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The mitral insufficiency is benign in this patient. However, the tricuspid insufficiency is consistent with moderate pulmonary hypertension. Hepatic veins were not dilated, and therefore pulmonary hypertension is compensated at this time, and it is debatable on whether treatment should occur.

INTERPRETED BY

Eric Lindquist, DMV

DABVP, Cert. IVUSS

IMAGING PERFORMED BY

Shari Reffi, CVT

HOSPITAL NAME

Newton Vet Hospital

REFERRING VET

Dr. Barron

INVOICE

43817

DATE

12/29/22



PATIENT

Shredder Matts

The patient should be evaluated for primary respiratory disease with secondary pulmonary hypertension. There is mild anesthetic risk. Blood pressure measurements recommended. Oxygenation is key during any anesthetic procedure. Pulse oximetry should be monitored carefully. Minimal anesthetic time should be implemented. If exercise intolerance is an issue in this patient, Sildenafil could be considered at 1 mg/kg BID. However, again, there is no consensus on when treatment for pulmonary hypertension should occur.

SPECIES

Canine

BREED

Pug

Given that hepatic veins are not dilated, there is no evidence of right-sided failure at this point, and therefore the pulmonary hypertension is compensated. Suggested anesthetic protocol would involve Torbutrol pre-med, Propofol induction, Isoflurane maintenance, again with strict monitoring of pulse oximetry. Recheck echo in 6 months, earlier if any clinical signs initiate.

SEX

Neutered Male

AGE

12 Years

WEIGHT

21.5 Pounds

INTERPRETED BY

Eric Lindquist, DMV
DABVP, Cert. IVUSS

IMAGING PERFORMED BY

Shari Reffi, CVT

HOSPITAL NAME

Newton Vet Hospital

REFERRING VET

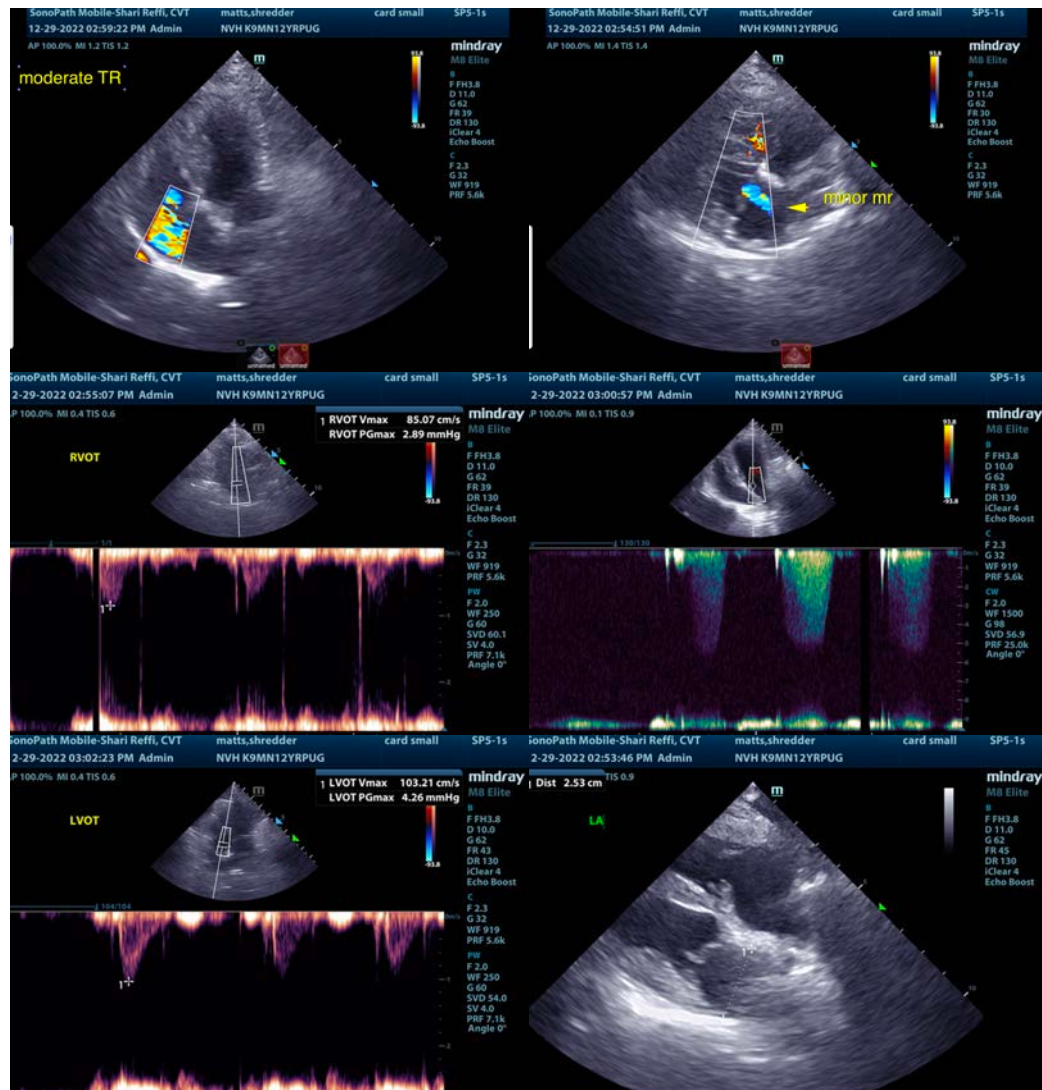
Dr. Barron

INVOICE

43817

DATE

12/29/22





PATIENT

Shredder Matts

SPECIES

Canine

BREED

Pug

SEX

Neutered Male

AGE

12 Years

WEIGHT

21.5 Pounds

INTERPRETED BY

Eric Lindquist, DMV

DABVP, Cert. IVUSS

IMAGING PERFORMED BY

Shari Reffi, CVT

HOSPITAL NAME

Newton Vet Hospital

REFERRING VET

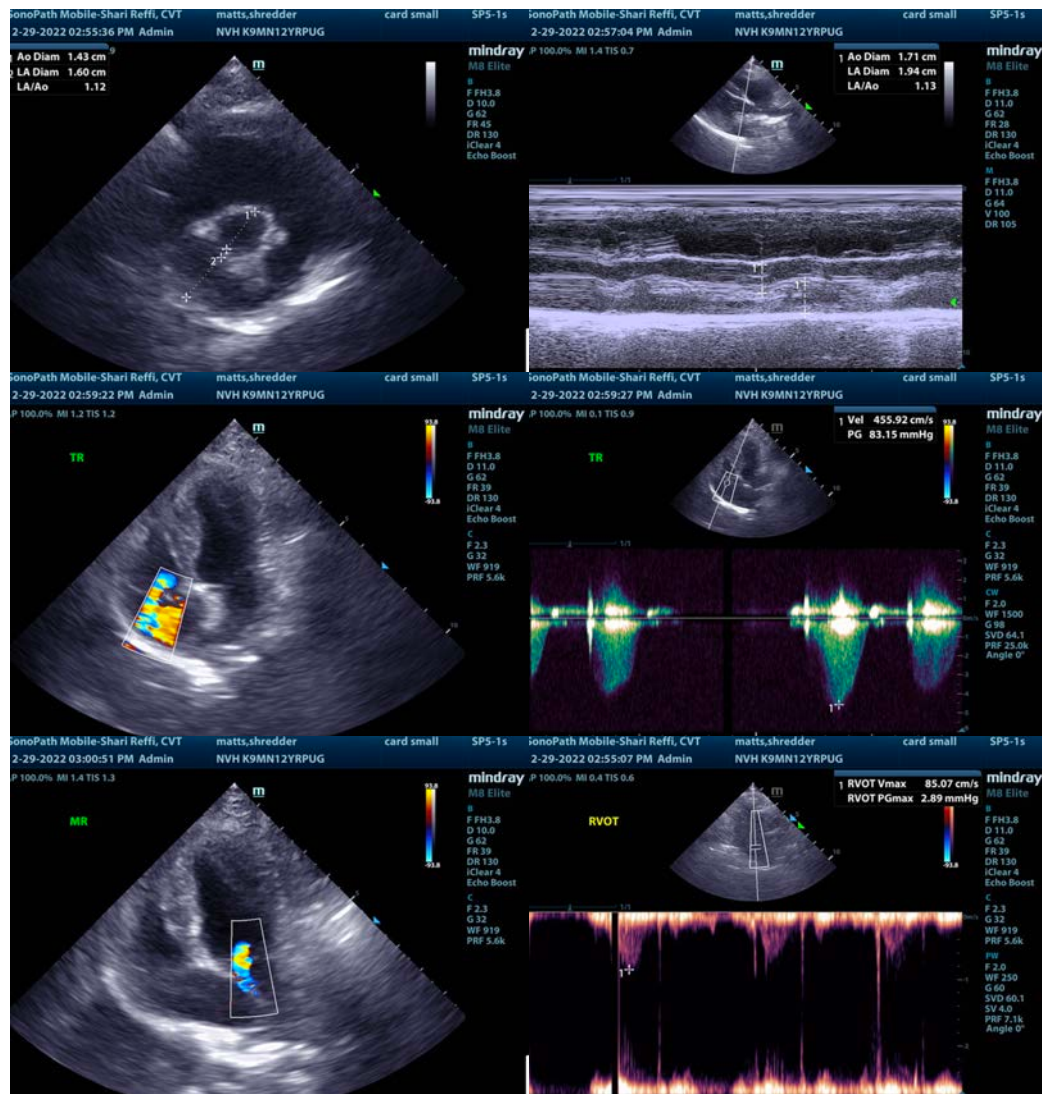
Dr. Barron

INVOICE

43817

DATE

12/29/22



The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

Thank you for this referral. If the clinical or image interpretation does not parallel your findings or if I can be of any further assistance please contact me.

Eric Lindquist, DMV, DABVP, Cert. IVUSS, CEO of SonoPath.com

info@SonoPath.com